

Reverse Conducting Thyristors (Note 1)

$I_T(AV)$ $I_R(AV)$ $T_C=65^{\circ}C$ Note 2 (Amps)	I_{TSM}/I_{RSM} (Amps $\times 10^3$) 50 Hz 60 Hz		I_{T+1}/I_{R+1} @ 8.3 ms (A ² sec $\times 10^3$)	I_{DRM} @ $T_{J(Max)}$ $V_{DRM(Max)}$ (mA)	V_{DRM} Range (Volts)	V_{RM} @ $T_{J(Max)}$ I_{RM} V_{RM} (Amps) (Volts)	V_{TM} @ $T_{J(Max)}$ I_{TM} V_{TM} (Amps) (Volts)	t_q (Max) @ $T_{J(Max)}$ (μ sec)	Max di/dt @ $T_{J(Max)}$ (A/ μ sec)	Min dv/dt @ $T_{J(Max)}$ (V/ μ sec)	
<u>60 @ 81°C</u>	<u>1.09</u>	<u>1.2</u>	<u>6</u>								
60 @ 65°C	1.09	1.2	6	15	200-600	190	2.45	190	2	200	300
<u>150 @ 77°C</u>	<u>2.7</u>	<u>3</u>	<u>38</u>								
60 @ 81°C	1.09	1.2	6	15	600-1200	190	2.05	470	1.8	200	300
<u>150 @ 77°C</u>	<u>2.7</u>	<u>3</u>	<u>38</u>								
60 @ 81°C	1.09	1.2	6	15	200-800	190	2.05	470	1.8	200	300
<u>150 @ 82°C</u>	<u>2.7</u>	<u>3</u>	<u>38</u>								
60 @ 88°C	1.09	1.2	6	15	600-1200	190	2.05	470	1.8	200	300
<u>150 @ 82°C</u>	<u>2.7</u>	<u>3</u>	<u>38</u>								
60 @ 88°C	1.09	1.2	6	15	200-800	190	2.05	470	1.8	200	300
<u>250 @ 83°C</u>	<u>4.6</u>	<u>5</u>	<u>110</u>								
100 @ 85°C	1.8	2	17	30	600-1200	310	2.05	780	1.75	200	300
<u>250 @ 83°C</u>	<u>4.6</u>	<u>5</u>	<u>110</u>								
100 @ 85°C	1.8	2	17	30	200-800	310	2.05	780	1.75	200	300
<u>250 @ 83°C</u>	<u>4.6</u>	<u>5</u>	<u>110</u>								
100 @ 85°C	1.8	2	17	30	600-1200	310	2.05	780	1.75	200	300
<u>250 @ 83°C</u>	<u>4.6</u>	<u>5</u>	<u>110</u>								
100 @ 85°C	1.8	2	17	30	200-800	310	2.05	780	1.75	200	300
<u>400 @ 77°C</u>	<u>6.4</u>	<u>7</u>	<u>200</u>								
150 @ 103°C	3.2	3.5	50	50	600-1200	1250	2.2	1250	2.2	200	300
<u>400 @ 77°C</u>	<u>6.4</u>	<u>7</u>	<u>200</u>								
150 @ 103°C	3.2	3.5	50	50	200-800	1250	2.2	1250	2.2	200	300
<u>400 @ 89°C</u>	<u>6.4</u>	<u>7</u>	<u>200</u>								
150 @ 102°C	3.2	3.5	51	80	2500	1200	4	600	2	300	700
<u>400 @ 81°C</u>	<u>6.4</u>	<u>7</u>	<u>200</u>								
150 @ 102°C	3.2	3.5	51	80	2500	1200	4	600	2	300	700
<u>1000 @ 60°C</u>	<u>12.8</u>	<u>14</u>	<u>820</u>								
400 @ 59°C	6.4	7	200	150	2500	2400	4.5	1000	2.1	300	700
<u>1000 @ 47°C</u>	<u>12.8</u>	<u>14</u>	<u>820</u>								
400 @ 59°C	6.4	7	200	150	2500	2400	4.5	1000	2.1	300	700

Note 1: Junction Temperature Range = -40 to 125°C

Note 2: Current Rating at 60 Hz, 180° Conduction, Half Sine

Gate Trigger Voltage and Current, $T_J=25^\circ\text{C}$		PACKAGE INFORMATION					
		Rejc	Diode	Max Mounting Force or Torque	STYLE	Outline	TYPE NO.
V_{GT} (Volts)	I_{GT} (mA)	SCR $^\circ\text{C/W}$	$^\circ\text{C/W}$				
3	150	.35	.40	$\frac{210 \text{ lb-in}}{180 \text{ kg-cm}}$	M12 x 1.5 Stud	Metric	RCR70BY
3	200	.17	.35	$\frac{420 \text{ lb-in}}{360 \text{ kg-cm}}$	M20 x 1.5 Stud	Metric	RCR150BX
3	200	.17	.35	$\frac{420 \text{ lb-in}}{360 \text{ kg-cm}}$	M20 x 1.5 Stud	Metric	RCR150BY
3	200	.15	.30	$\frac{1580 \text{ lbs}}{7.1 \text{ KN}}$	Press Pak	14.5 x 43 mm	FR150DX
3	200	.15	.30	$\frac{1580 \text{ lbs}}{7.1 \text{ KN}}$	Press Pak	14.5 x 43 mm	FR150DY
3	250	.10	.20	$\frac{700 \text{ lb-in}}{600 \text{ kg-cm}}$	M24 x 1.5 Stud	Metric	RCR300BX
3	250	.10	.20	$\frac{700 \text{ lb-in}}{600 \text{ kg-cm}}$	M24 x 1.5 Stud	Metric	RCR300BY
3	250	.10	.20	$\frac{2420 \text{ lbs}}{10.8 \text{ KN}}$	Press Pak	14.5 x 50 mm	FR300DX
3	250	.10	.20	$\frac{2420 \text{ lbs}}{10.8 \text{ KN}}$	Press Pak	14.5 x 50 mm	FR300DY
4	350	.05	.10	$\frac{3960 \text{ lbs}}{17.7 \text{ KN}}$	Press Pak	18 x 85 mm	FR500AX
4	350	.05	.10	$\frac{3960 \text{ lbs}}{17.7 \text{ KN}}$	Press Pak	18 x 85 mm	FR500AY
4	350	.035	.10	$\frac{6600 \text{ lbs}}{30 \text{ KN}}$	Press Pak	21 x 92 mm	FR600AX
4	350	.035	.10	$\frac{6600 \text{ lbs}}{30 \text{ KN}}$	Press Pak	21 x 92 mm	FR600AW
4	350	.022	.07	$\frac{7920 \text{ lbs}}{35.6 \text{ KN}}$	Press Pak	21 x 102 mm	FR1000BX
4	350	.022	.07	$\frac{7920 \text{ lbs}}{35.6 \text{ KN}}$	Press Pak	21 x 102 mm	FR1000BW



T-91-01

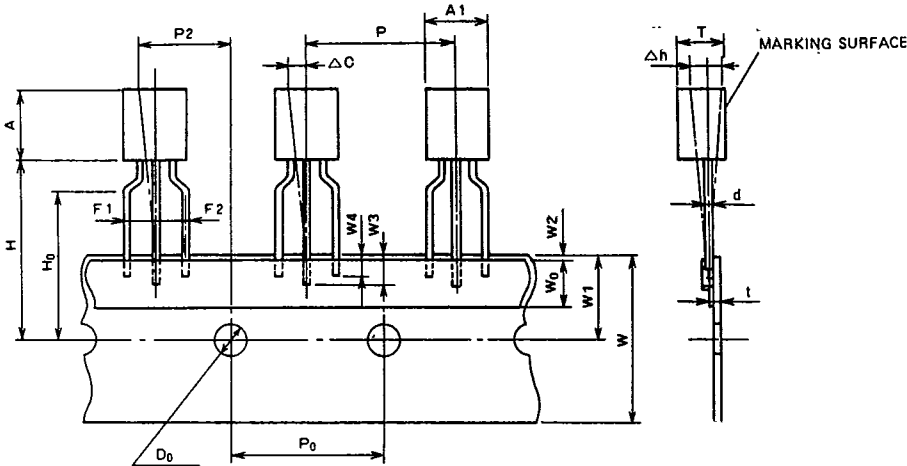
Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (412) 925-7272
Powerex Europe, S.A., 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

Taping

STANDARD SPECIFICATIONS
FOR TAPING OF MOLDED
PACKAGE THYRISTORS AND
TRIACS

TO-92 Package

Thyristor
CR02AM, CR03AM, CR04AM
Triac
BCR1AM



Taping dimensions

Description of symbol	Symbol	Dimensions (Unit:mm)	Remark
Product width	A1	5.0 MAX	
Product height	A	5.0 MAX	
Product thickness	T	3.7 MAX	
Lead wire diameter	d	0.6 MAX	
Sticker lead wire length (1)	W3	2.5 MIN	
Sticker lead wire length (2)	W4	2.0 MIN	
Pitch between products	P	12.7 ± 1.0	
Feed hole pitch	P0	12.7 ± 0.3	The cumulative pitch error is ± 1mm per 20 pitches.
Feed hole deviation (1)	P2	6.35 ± 1.3	
Distance between lead wires	F1, F2	2.5 ± 0.4	
Defective product (1)	Δh	0 ± 2.0	
Tape width	W	18.0 ± ^{1.0} _{0.5}	
Sticker tape width	W0	6.0 ± 0.5	
Feed hole deviation (2)	W1	9.0 ± 0.5	
Sticker tape deviation	W2	0.5 MAX	
Position of product bottom surface	H	17.5 MIN	
Lynch height of lead wire	H0	16.0 ± 0.5	
Feed hole diameter	D0	4.0 ± 0.2	
Tape thickness	t	0.7 ± 0.2	
Defective product (2)	ΔC	0 ± 1.0	

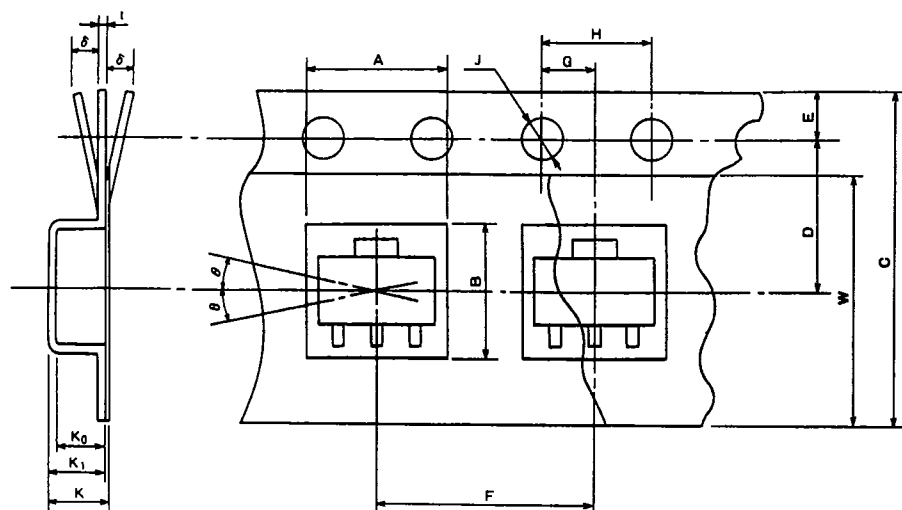


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Powerex Semiconductor Data Book

Taping



SOT-89 Package

Thyristor
CR08AS

Taping dimensions

Description of symbol		Symbol	Dimensions/angles Unit:mm	Remark
Parts Insertion	Height	A	5.0 ± 0.1	Cross-section of the surface 0.5mm above the inner bottom
	Width	B	4.6 ± 0.1	Cross-section of the surface 0.5mm above the inner bottom
Concave square hole	Depth	K_0	1.8 ± 0.1	Inner space
	Pitch	F	8.0 ± 0.1	Cumulative error +0.1/-0.3 MAX/10 pitches
Round feed hole	Diameter	J	$\phi 1.5 \pm 0.05$	
	Pitch	H	4.0 ± 0.1	Cumulative error +0.1/-0.3 MAX/10 pitches
	Position	E	1.5 ± 0.1	Distance between the tape edge and the hole center
Distance between center lines	Vertical	G	2.0 ± 0.5	Center line of concave square hole and round feed hole
	Horizontal	D	5.65 ± 0.05	Center line of concave square hole and round feed hole
Cover tape	Width	W	$9.5 + 0.3/-0$	Thickness: 0.1 MAX
Carrier tape	Width	C	12 ± 0.2	Warp ± 0.3 MAX
	Thickness	t	0.3 ± 0.05	
	Package hole depth	K_1	2.1 ± 0.1	
Device	Package dimensions	—	—	As shown in (e)
	Inclination	θ	30° MAX.	
Total Thickness		K	2.3 ± 0.1	Total thickness including cover and carrier tapes